

Infrastructure Development Working Group

May 23, 2012 10:15 – 12:15
Sabah Room, Basement II, Shangri-La Hotel
Kuala Lumpur, Malaysia

Agenda

Agenda Item No.	Issue	Lead Economy/ Speaker	Doc. No.
1	Welcome and Introduction – 5 min	IDWG Chair	N/A
Agenda focal point: Infrastructure Design			
2	Presentation on Integrated Infrastructure Planning – 20 min	Guest speaker / Garry Bowditch	IDWG 33-
3	Indonesia Economic Development Master Plan – 20 min	ABAC Indonesia / Anindya Bakrie	IDWG 33-
Infrastructure Execution			
4	Update on Water Security – 10 min	ABAC Japan	IDWG 33
5	Transport and Supply Chain – 10 min	ABAC Russia	IDWG 33 -
6	Report on Work Plan of APEC Transportation Working Group – 10 min	TPTWG/ Misrun Timin	IDWG 33
7	Eco Cities – 10 min	ABAC Russia /	IDWG 33
8	Eco Cities – Micro Energy Grid Project – 10 min	ABAC Korea /	IDWG 33
Infrastructure Reinvestment			
9	Disaster resilience and planning – 20 min	ABAC China / Guofeng Su & Mr. Jianguo Chen	IDWG 33
Other Business			
10	Outline of Strategic Framework for Infrastructure Development – 5 min	IDWG Chair	IDWG 33
11	Summary and Conclusion	IDWG Chair	N/A

Infrastructure Development Working Group Matrix

Highlighted cells indicate U.S. Action

Agenda Item	US Member	US ABAC action	USG Position	Other economy positions
2. Presentation on Integrated Infrastructure Planning by Garry Bowditch	Kevin Thieneman	This will serve as useful background for ABAC's recommendations related to infrastructure planning		
3. Indonesia Economic Development Master Plan	Kevin Thieneman	Indonesia's Master Plan should be an excellent source of recommendations for best practices in infrastructure planning.		
4. Update on Water Security	Kevin Thieneman	ABAC USA is supportive of this issue, however ABAC Japan needs to identify some deliverables		This issue was introduced in 2011 in the SGWG; ABAC Japan is the primary supporter
5. Transport and Supply Chain	Kevin Thieneman	This is an ABAC Russia priority and will be the focus of the transportation ministerial in Russia this August. ABAC USA is supportive of this issue and we should work to ensure ABAC has some substantive input to provide to Ministers in August.		
6. Report on Work Plan of APEC Transportation Working Group (TPTWG)	Kevin Thieneman	This will be a presentation on the activities of the TPTWG in 2012. ABAC is working to establish closer ties to this group.		
7. Eco Cities	Kevin Thieneman	Russia will provide an update on their initiative		
8. Eco Cities – Micro Energy Grid Project	Kevin Thieneman	ABAC Korea will give a presentation on this issues		
9. Disaster resilience and planning	Kevin Thieneman	ABAC China will provide an overview of this issue. Main discussion will be in HCMC in July.		
10. Outline of Strategic Framework for Infrastructure Development	Kevin Thieneman			

Working Group Minutes

Infrastructure Development Working Group Meeting 24 February 2012, Hong Kong

Minutes of the Meeting

1. Infrastructure Development Working Group Chair Richard Lavin (ABAC USA) welcomed delegates and introduced the IDWG Co-Chairs: Yoshinori Komamura (ABAC Japan), Yang Yunsong (ABAC China) and Anindya Bakrie (ABAC Indonesia)

IDWG 2012 Work Plan

What was the issue?

The IDWG Chair gave a presentation outlining the proposed IDWG Work Plan for 2012. In the proposed plan the IDWG agenda would be based on the infrastructure lifecycle, specifically Design, Execution and Reinvestment.

Under Design the IDWG will focus on the development of policy and regulatory environments that promote the implementation of infrastructure development plans. This will include recommendations regarding foreign direct investment policy and financing mechanisms such as public-private partnerships (PPPs). The work on the PPPs will focus on the supply chain and transport sector.

Under Execution the IDWG will provide recommendations on the effective application of infrastructure resources in the areas of Eco-Cities and Water Security. These two areas of focus have been selected based on preparatory work conducted by ABAC in 2011.

Under Reinvestment the IDWG will develop recommendations on policies that ensure economies effectively reinvest in infrastructure, with a focus on developed economies as well as policies for effective response and recovery from natural disasters.

What was discussed?

ABAC Members endorsed the work plan, with the provision that that under the theme of reinvestment, ABAC should focus on developed **and** developing economies, rather than solely on the former.

Tony Nowell recommended that TEL Ministers and the TEL Working Group be included in the list of APEC groups that the IDWG should engage with.

Wayne Golding also noted that given the focus on PPP, the IDWG and Advisory Group Chairs should coordinate their work.

The IDWG proposed the following deliverables for 2012:

- Best practice recommendations – *presented to Leaders, relevant ministers and Senior Officials*
- Strategic Framework for Infrastructure Development – *presented to Transportation Working Group and other relevant APEC groups*
- Commitment from Leaders to implement policies that attract and accelerate infrastructure investment
- SOM stock take on supply chain (in collaboration with REIWG)
- Quantitative assessment of business cost of inadequate infrastructure

What was agreed/decided?

ABAC Members endorsed the 2012 IDWG work plan with the noted amendments.

Eco-Cities

What was the issue?

At the invitation of ABAC Russia two external speakers presented on the results of a study commissioned on Eco-Cities in 2011. The study covered the rising urbanization in the Asia-Pacific. The Asia Pacific proportion of urban population is 29%, more than in any other region, and at the same time, the quality of living in cities and their correspondence to modern eco-standards varies greatly throughout the region.

What was discussed?

- Working Group Chair Richard Lavin inquired as to the importance of having an environment conducive to building an eco-city, what factors allowed the Brazilian government to develop such a forward thinking development such as Curitiba, and how they planned to maintain it. The circumstances surrounding the development of Curitiba were unique, as Brazil was ruled by as military junta at the time of the city's development. This allowed for a highly integrated and forward thinking strategy to be developed relatively quickly. The Curitiba model is based on tight integration of land use and high speed transportation. While a current eco-city may employ over 30 different systems to achieve sustainability, Curitiba is now a forty year old development, and only utilizes two to three of these. This means that there is much room for improvement on the existing infrastructure.

- Tony Nowell stated that eco-city development should be an integral part of urban reconstruction following disasters. He highlighted Christchurch as a prime example where a significant portion of the city would need to be rebuilt, and that this was a prime opportunity to rebuild in a more eco-friendly manner. Guest speakers Kimberly Gray and Doug Farr noted that the first step in reconstruction should be to conduct a stock take of existing working and non-working infrastructure to find out how close infrastructure is to the end of its life cycle. In many cities, infrastructure is due for upgrading or replacement, and this is a prime opportunity to do this.
- Twatchai Yongkittikul highlighted the importance of changing governments' mind-set that the development of eco-cities is a rich economy problem not a developing economy problem. The Curitiba case shows that developing economies can be very successful at implementing eco-cities. Rather than developing on 20th century infrastructure design, developing economies should see eco-cities as a more sustainable growth strategy that will be more cost effective in the long term.
- Isabelle Courville noted that ABAC should have two work streams and recommendations on infrastructure depending on whether eco-city initiatives were classified as brownfield (based existing infrastructure) or greenfield (no existing infrastructure).
- John Koo recommended that ABAC address the issue from a business perspective by showing the value to the private sector in engaging governments in eco-cities. The private sector needs to see potential profit in order to become engaged. The most effective way to do this would be to identify successful case examples of PPP in building eco-cities. Wayne Golding agreed that PPP projects must be addressed with an emphasis on cost benefit analysis. That cost benefit analysis can be applied to projects undertaken in developing, partially developed, and developed economies.
- Kevin Thieneman highlighted commitments already made in the 2011 Leaders Declaration to promote energy efficiency by taking specific steps related to transport, buildings, power grids, jobs, knowledge sharing, and education in support of energy-smart low-carbon communities; as well as incorporate low-emissions development strategies into economic growth plans and leverage APEC to push forward this agenda, including through the Low-Carbon Model Town and other projects. He recommended that ABAC capitalize on these commitments and use them as a launching pad for engagement with APEC working groups.
- David Dodwell identified Hong Kong as a good model for high density urban planning, which forms a part of eco-cities. He noted that the first step in developing more eco-friendly cities is to build around mass transit, rather than roadways. Once transport infrastructure is in place, it is very difficult to change the method of transport. Many cities have unsuccessfully tried to implement mass transit after having already built substantial roadway infrastructure. Lessons learned from cities like Hong Kong can provide economies such as China substantial insight on how to avoid building 20th century infrastructure.

- Ho Meng Kit reminded Members that Singapore would be hosting the World Cities Summit from July 1-4 2012. This is an excellent opportunity for governments to engage with solutions providers, and there will be a business exhibition component of the Summit. ABAC Singapore agreed to circulate information on the event to the Council.

What was agreed/decided?

- ABAC members agreed to proceed with the recommendations that came up during discussion. Going forward the IDWG will look to engage in Energy Ministers in developing the concept of eco-cities.

Water Security

What was the issue?

It was agreed at ABAC IV in 2011 that in light of past reports and discussions the best way forward in discussing water security was to narrow down the focus to a specific work stream. ABAC Japan invited Nicolas Renard of Veolia Environment, a water management company, to provide an overview of initiatives undertaken by a private operator in the water industry. The presentation focused on proposals for PPP and Capacity Building. It included the following topics:

Good management of water resources and services, a prerequisite for water security

- Satisfying a growing water demand (Saving water resources, increasing water productivity and dehydrating economic growth, stopping policy inducing scarcity, and managing risks and vulnerability)
- Controlling contamination of water resources (coherent sanitation planning)
- Example of Honolulu wastewater reclamation plan (using “grey” water for industrial purposes to alleviate demand)

Improving water governance

- The need establish good governance systems: Clarifying roles between private and public sectors; Capacity Building
- Management of water resources and service: Utilizing existing assets; Reducing leakages in distribution networks; Promoting transparency; Demand management
- Example of Capacity Building at Shenzhen potable water project

PPP

- Advantages of introducing PPP (allowing the public and private sector to focus on core competencies)
- Example of PPP at a Shanghai drinking water service project (highlighting long term investment needs)
- PPP success factors (operator autonomy, long term vision)

What was discussed?

Wayne Golding commended the quality of the report, which demonstrates the action needed. He recommended that the IDWG approach water security with a multi-year work plan, given the complexity of the issue. The Chair agreed that 2012 would be focused on developing specific policy recommendations to APEC with more specific actions and recommendations to be developed in subsequent years.

Isabelle Courville questioned how water infrastructure development should be funded, and suggested that the consumer should be the one to bear the responsibility, rather than the city. This would also allow more flexibility and rapidity in bringing in private sector providers to upgrade water infrastructure as city planning and budgeting could be removed from the equation. Mr Renard noted that it is important for the private sector service provider to have complete autonomy over the entire water infrastructure system.

Tony Nowell reminded ABAC Members that the discussion on water infrastructure should not be limited to urban infrastructure. Mr Renard acknowledged that Veolia Environment is an urban water specialist, but highlighted two important steps in upgrading rural infrastructure. First, remove the public policy that incentivises waste. The Indian green revolution was achieved by lowering the cost of water for agricultural growth. The result was an increase in production of food, but the over use of aquifers in India. Second, encourage irrigation methods that bring water directly to the plant, and reduce water loss. Jordan has effectively implemented such a design and reduced water consumption by 2/3. Only 10% of irrigation worldwide uses such efficient methods.

John Koo and Kevin Thieneman inquired as to whether APEC economies had created any impediments to private sector involvement in water infrastructure. Mr Renard noted that some economies did not allow private companies to provide essential services such as water. However, on balance APEC economies are open to private sector involvement. One way to improve private sector access is to showcase more PPP case studies to demonstrate the added value of the private sector expertise.

What was agreed/decided?

ABAC Members agreed water security would be a multi-year work plan. Next steps involve identifying impediments to private sector involvement in water services, as well as further work on identifying successful case examples of PPP.

Supply Chains***What was the issue?***

Modern supply chains are the backbones of the existing global economy and their development is vital for further economic development of APEC.

Transportation and logistics infrastructure that is currently in use is becoming insufficient to satisfy the needs of the growing economies of APEC. Ground infrastructure development is required to

integrate inland populations of the region and strengthen connection to other regions. Despite current level of sophistication of supply chain development in APEC economies, certain measures may still improve the ease of doing business in the region.

What was discussed?

Tony Nowell noted that data flows are integral to supply chains. He highlighted a presentation from ABAC Chinese Taipei on the implementation of wireless technology to improve data flows and speed customs processes. This work stream is closely tied with the TEL Ministers work, and is another reason for the IDWG to engage with them.

What was agreed/decided?

ABAC Members agreed to continue work on highlighting solutions to supply chain bottlenecks through infrastructure development. The IDWG will work closely with the APEC Transportation Working Group and the Committee on Trade and Investment to move this issue forward.

Conclusion

What was the issue?

Summary of discussions.

What was discussed?

Working Group Chair Richard Lavin thanked ABAC members for the substantive discussion. He noted that important steps for 2012 would be engagement with APEC working groups. This would include the following groups:

- TPTWG: ABAC recommendations infrastructure development as it applies to supply chains
- Energy Ministers and energy working groups: ABAC recommendations on the development of eco-cities.
- CTI: ABAC recommendations on supply chain infrastructure.
- Investment experts group for policy recommendations on investment issues

What was agreed/decided?

Members agreed to refine deliverables intersessionally for further discussion at ABAC II.

With no other business to discuss the meeting was adjourned at 10:00 a.m.

Meeting Document Summary Sheet Template

Document Title: Enhancing household water security in the urban area: Case studies and recommendations
Purpose: Discussions
Issue: Identify key success factors from case examples of PPP relating to water security in the urban area Public sector reservations about PPP participation and possible measures to resolve them Letter to the MRT and Recommendations to APEC Leaders
Background: At 2012ABAC-1, ABAC agreed to address water security as a multi-year issue and that the next steps would be to identify impediments to private sector involvement in water services, as well as to further work on identifying successful case examples of PPP. ABAC Japan reports and recommends the following: <ul style="list-style-type: none"> • PPP case examples of outstanding performance <ul style="list-style-type: none"> - Manila, Philippines - Chile - Macao, PRC - Key success factors extracted from the three cases • Engagement of private sector in water business <ul style="list-style-type: none"> - Household water availability and private sector participation in water business in ABAC region - Private sector reservations about PPP - Disclosure of PPP data (case example) - Government guarantee (case example) • Letter to the MRT and Recommendations to APEC Leaders
Proposal /Recommendations: <ul style="list-style-type: none"> • Private sector participation in PPP for water business is more a matter of “lack of measures to incentivise PPP”, rather than “entry barriers” • Of the reservations private sector has about water PPP participation, some are inherent to water business, and others are universal. For the latter, the key is to establish an environment facilitating private operators to identify risks, such as full disclosure by public authorities and clarification of public/private sector roles. • With an understanding that water business is an organic component of urban development, ABAC Japan proposes recommendations relating to roles of private/public sectors, operation design and business environment.
Decision Points: <ul style="list-style-type: none"> • Endorse the recommendations outlined above.

Household Water Security in the Urban Area

ABAC Japan
Kuala Lumpur, May 2012

<Summary of presentation>

1. Population increase and economic growth will drive up demand for water
2. Good management of water is the key to meeting growing water demand
3. Water management encompasses conservation, leakage reduction, pollution control, recycling water, and capacity building
4. One means to promoting good water management is Public-Private Partnership (PPP)
5. PPP will allow public and private sectors to focus on respective core competences, provided that the roles and responsibilities of each are clearly defined

ABAC agreed that:

1. Water security would be a multi-year work plan, and
2. Next steps would be to:
 - a. Identify successful case examples of PPP
 - b. Identify impediments to private sector participation in water services

PPP case examples of outstanding performance

1. Manila, Philippines
2. Chile
3. Macau, China

KOMATSU Case① Water supply in Manila, East Zone

25-year concession (Awarded in 1997)

Concessionaires: Ayala (PHI), United Utilities(UK), Mitsubishi (JPN), Bechtel (USA)

【Target】

- | | | |
|-----------------------------------|----------------------|--|
| 1. 100% water supply in the zone | No tariff raise | Reduce Non-Revenue Water to 32% (10 years) |
| 2. Achieve water quality standard | 24-hour water supply | (3 years) |
| 3. Expand sewage to 80% | | (25 years) |

【Scheme】

1. Community billing: One meter serves several households ⇒ Neighbor relations deter non-payment
2. Debt of MWSS (pre-PPP operator) to be repaid by new operators' concession fee

【Impact】

1. Reduced Non-Revenue Water : 63%(1997) ⇒ 11.5%(2011)
2. Achieved 24-hour water supply : 26%(1997) ⇒ 99%(2011)
3. First full-scale sewage treatment plant in 2007 (2009 sanitation coverage is 10%)
4. 1999 Turned profit ⇒ 2002 Began paying dividends ⇒ 2005 Listed on Philippine Stock Exchange
5. Increased population served: 3 million (1999)⇒ 6.1million (2009)

【Success factors】

1. Legal system: Established National Water Crisis Act
2. Adjustments made to address subsequent changes in environment:
Established a supervisory body; Switched to local currency; Foreign Currency Differential Adjustment
3. Expansion of coverage (including poor communities) led to expanded revenue base
4. Maintained ex-MWSS employees (excluding voluntary turnover);
Boosted morale: Merit-based payment and streamlining ⇒ salary upgrade

KOMATSU Case② Water Supply in Chile	5
<p>1990s-, Subsidy to the poor (started when SOE supplied water) In Chile, major water suppliers were privatized in 2004, but this scheme continues</p>	
【Target】	
<ol style="list-style-type: none"> 1. Pricing commensurate with actual service cost 2. Mechanism facilitating affordable payment for the poor 	
【Scheme】	
<ol style="list-style-type: none"> 1. Household budget survey to identify affordable amount (13% of households receive subsidy to ensure water tariff is within 5% of income) 2. Subsidy cap (15m³/month) to ensure water conservation 	
【Impact】	
<ol style="list-style-type: none"> 1. Operation profitability: ▲2%(1988) ⇒ +4%(1998) 2. Financial health: Subsidies limited to the poor, based on household budget survey 3. Tariff doubled from pre-PPP era, but subsidy covers 25–85% of billed amount 	
【Success Factors】	
<ol style="list-style-type: none"> 1. Carrot (Subsidy)–and– Stick (Payment in arrears will rescind subsidy) approach 2. Sense of involvement (by the poor): Beneficiaries must apply for the municipal budget survey to receive subsidy 3. Government supervises water operators (Since privatization, public and private sectors create and review investment plans every 5 years) 	

KOMATSU Case③ Water supply in Macau	6
<p>25-year concession (Awarded in 1985; Extended for 20 years in 2009) Concessionaires: Suez(FRA), NWSH(Hong-Kong) etc.</p>	
【Target】	
<ol style="list-style-type: none"> 1. Improve water quality, water supply, water pressure 2. Reduce Non-Revenue Water(NRW) from 40.3%(1982) 3. Make appropriate capital investment 	
【Scheme】	
<ol style="list-style-type: none"> 1. Concessionaire submits investment plan to Gov.; Independent regulator audits concessionaire 2. Transparent tariff revision process linked to rate-of-return, cost-plus, price index 3. Partial compensation for rehabilitation of existing assets in the form of tariff revision 4. Penalty: Water supply will be halted if payment is in arrears for 45days 	
【Impact】	
<ol style="list-style-type: none"> 1. Achieved EU standard water quality and 24-hour supply after 3 years 2. Met demand for water which tripled between 1982–1998 3. Replaced 85% of pipelines 4. Reduced water tariff (excluding inflation) 5. Reduced NRW from leakage: 20.2%(1985)⇒12.4%(2001)⇒9%(2011) 	
【Success Factors】	
<ol style="list-style-type: none"> 1. Contract clarified public/private roles and had a long-term perspective; Annual reviews 2. Transparent tariff revision according to rules; penalty for payment arrears 3. Economic growth of the region helped absorb part of the investment cost 	

KOMATSU Key Success Factors

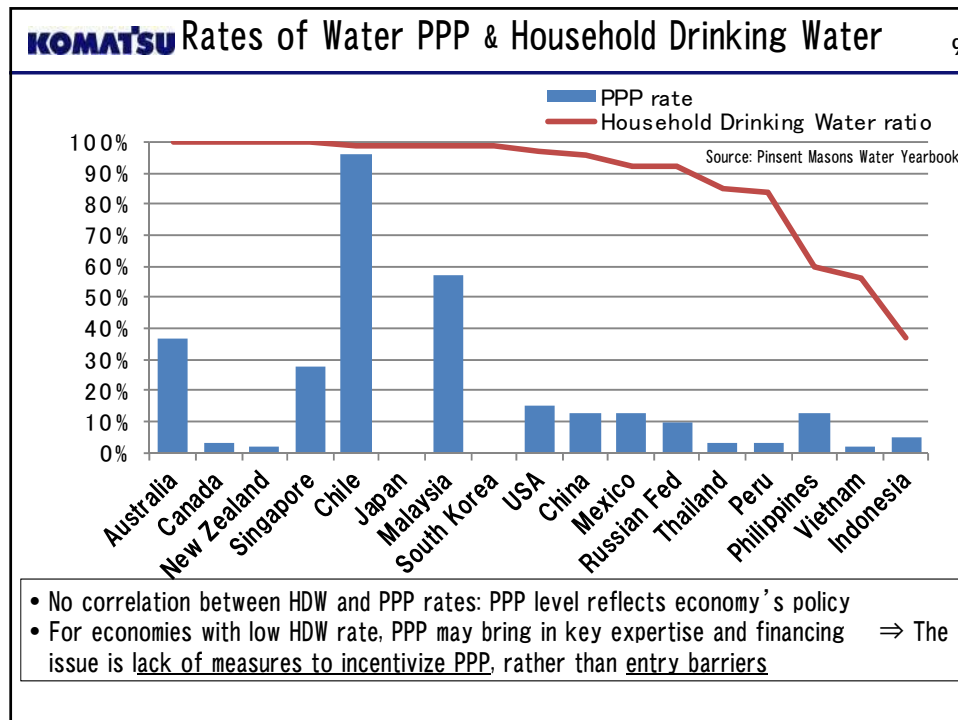
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1. Contracts clarified public/private roles and incorporated long-term perspective
2. Joint periodic review of PPP progress by public and private sectors
3. Contracts adjustable to changes in environment
4. Low tariff for the poor and measures to ensure tariff payment
5. Participation of consumer/community to foster a sense of conservation and acceptance of scheme
6. Market mechanism and boosted employee morale

KOMATSU

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Engagement of the private sector in
Water supply business



KOMATSU Private sector reservations about PPP participation 10

Ref: PPP Comparison for electricity and water

		Electricity (BOT)	Water (Concession)
1. Factors inherent to water business			
a. Water is essential for life. Reaping big profits will invite social criticism	Investment (\$)	Several billion	Several hundred million
b. In planning economic policies or industrial development, water is secondary	Priority (industrial development)	Primary	Secondary
c. Existence of a population unaccustomed to paying for water (even less for sewage)	Revenue	Hard currency	Local currency
	Technology	High-tech	Low-tech
	Procure from	Developed economy	Local
	Supply to	(SOE) Transmission company	General public
2. Issues surrounding PPP(not limited to water):			
a. Lack of Project information: Inadequate/lack of/inaccurate F/S info			
b. Pricing policy: Tariff level acceptable by the poor requires subsidy			
c. Public sector tends to walk away after PPP			
d. Absence of schemes for contract amendment (in response to unforeseen changes) and for dispute settlement			

KOMATSU Example of disclosure: Indonesia (PPP Book)

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READY FOR OFFER PROJECTS

AIR TRANSPORTATION

1. South Banten Airport, Pandeglang, Banten	2
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MARINE TRANSPORTATION

1. Expansion of Tanjung Priok Port, Kalibaru, DKI Jakarta	4
2. Tanah Ampo Cruise Terminal, Karangasem, Bali	6

TOLL ROAD

1. Medan-Kualanamu-Tebing Tinggi Toll Road, North Sumatera	8
2. Strategic Infrastructure and Regional Development of Sunda Strait, Lampung • Banten	10

WATER SUPPLY

1. Bandar Lampung Municipal Water Supply, Lampung	12
2. DKI Jakarta • Bekasi • Karawang Water Supply (Jatituhur), DKI Jakarta • West Java ..	14
3. Pondok Gede Water Supply, Bekasi, West Java	16
4. Surakarta Water Supply, Central Java	18
5. Tukad Uda Water Supply (Southern Bali), Bali	20
6. Maros Regency Water Supply, South Sulawesi	22

SOLID WASTE AND SANITATION

1. Solid Waste Management Improvement Bandung Municipal, West Java	24
2. Solid Waste Final Disposal and Treatment Facility • Putri Cempo Mojosoongo, Surakarta Municipal, Central Java	26

PRIORITY PROJECTS

TOLL ROAD

1. Medan • Binjai Toll Road, North Sumatera	30
2. Palembang • Indralaya Toll Road, South Sumatera	32
3. Tegayem • Babatan Toll Road, Lampung	34
4. Kemayoran • Kampung Melayu Toll Road, DKI Jakarta	36
5. Sunter • Rawa Buaya • Batu Ceper Toll Road, DKI Jakarta	38
6. Ulujami • Tanah Abang Toll Road, DKI Jakarta	40

KOMATSU PPP Book:

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Code No. P-033-15-0109-18

1. Project Title : Bandar Lampung Municipal Water Supply, Lampung

2. Contracting Agency

Mayor of Bandar Lampung

Person in Charge : Mr. Gustimigo

Position : President Director of

PDAM Way Rilau

Address : J. Pangeran Emir M. Noor No. 11A,
Bandar Lampung, Lampung Province,
INDONESIA

Phone : +62 721 484611

Fax : +62 721 484611

5. Estimated Project Cost

US\$ 38.00 million.

6. Financial Overview

Land acquisition : US\$ 0.69 million.

The following information is only applicable
for the private investment portion:

Consultant fees Engineering Design,
Maintenance and Construction (Estimated):
N/A

Financial Structure :

Equity : N/A

Loan : N/A

Economic Feasibility

ENPV : N/A

EIRR : N/A

Financial Feasibility

FNPV : N/A

FIRR : N/A

Payback Period : N/A

3. Project Location

Bandar Lampung Municipal, Lampung Province.

4. Scope of Work

1. The development of intake 500 lps.
2. The development of water supply pipeline transmission (ND 800 mm, length 27 km).
3. The development of WTP (2 unit, @ 250 lps).
4. The development of distribution network (>2,000 connection).

7. Government Support

N/A

8. Work Plan

Descriptions	2011	2012	2013	2014	Notes
Pre-qualifications	Q1				
Bid Conference	Q1				
Proposal Submission	Q2				
Proposal Evaluation	Q2				
Negotiations	Q3				
Contract Signing	Q3				
Financial Closed Obsolete		Q3			
Land Acquisitions	Q3				
Construction Raw Water	Q3-Q4	Q1			
Construction WTP		Q1-Q4	Q1-Q4	2013 • 2015	
Construction of Distribution Network and Service Unit	Q3-Q4	Q1-Q4	Q1-Q4	2012 • 2020	
Operations					

9. Disbursement Plan

Descriptions	2011	2012	2013	2014	Notes
Consultant Fees					Private portion
Land Acquisitions					Might be Provided by Government
Construction					Private Investment
Operation					

10. Other Information

Please contact person in charge.

KOMATSU Example of government guarantee: Japan(NEXI) 13

1950: Trade insurance established
 ⇒2001:NEXI established to expand insurance for investment

<Example>Manila Water (Philippines):
 Water and wastewater system improvement and expansion (2010/9)
 [Coverage] Bank finance amount= approx. \$150m
 Coverage = Country risk 97.5% Commercial risk 90%
 Term = 10 years from date of loan (financing)

Political risk

- Exchange restriction/ban, Import restriction/ban
- War, civil disturbance, revolution
- Delay in foreign exchange payment by country of paying party
- Vindictively high tariff, act of terrorism
- Economic sanctions • Expropriation • Act of God

Commercial risk

- Unilateral cancellation of contract by public authority (Not for private buyer cancellation)
- Bankruptcy or equivalent of the other party
- Non-payment exceeding three months by other party (excluding when delay is attributable to exporter, e.g. product claim)

Covers following losses

Loss arising from **inability to ship** (Pre-shipment risk)

Loss arising from **inability to collect payment** for goods/service and loan (Post-shipment risk)

Loss on **investment** caused by inability to continue JV or business discontinuation (Oversea investment risk)

KOMATSU 14

Letter to MRT
 And
 Recommendations to APEC Leaders

KOMATSU Letter to MRT

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Water security is the foundation for sustainable growth. In the early stages of industrialization, large-scale infrastructure works are given priority, but as the focus shifts to mid to long-term sustainable development, healthy and sound social foundation takes the center stage. In the case of water security, good water management in the urban area - with due consideration to environmental issues - is essential. Expansion of sewage system also weighs in, as reduction of environmental burden is another key to sustainable growth.

In economies with rapidly growing and urbanizing populations, public authorities alone will not be able to meet the rising need for water and sanitation facilities. ABAC therefore recommends that APEC embrace PPP to gain access to expertise and finance necessary to build water and sanitation infrastructures. Such PPPs must be carefully designed, taking into account the social dimension of this service. ABAC will develop recommendations with a view to achieving long-term and stable PPP management, outlining the roles of public authorities and private sector, considerations for operation and model business environment.

KOMATSU Recommendation for long-term, stable PPP

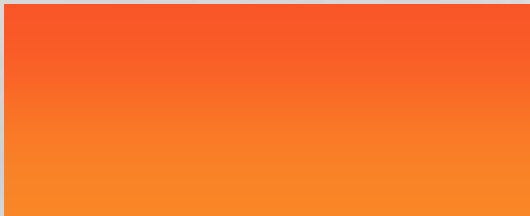
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- Role of Public and Private sectors: Accountability and cooperation
 - Public authority undertakes formulating policy measures including development of institutions and auditing the water operator
 - Private sector undertakes promoting/streamlining business and capacity building
 - Public and private sectors jointly review progress periodically and make improvements where necessary
- Operation design: Win-win-win for Public/Private sectors and consumer; Trust building
 - Tariff scheme incorporating diverse objectives: Pro-poor, conservation etc.
 - Contract adjustable to changes in political, economic, social environment
 - Participation of water consumers or local communities (where applicable)
- Business environment:
 - Public sector's accurate disclosure: Especially data required for F/S
 - Written legislations established for the whole of PPP business
 - Measures to sustain PPP profitability (State guarantee, currency risk hedge etc.)
 - Diversify financing measures (bond market, Trade/investment insurance etc.)
- View water business as an organic component of urban development



SAFETY

Introduction of the Experience and Progress of Chinese Emergency System



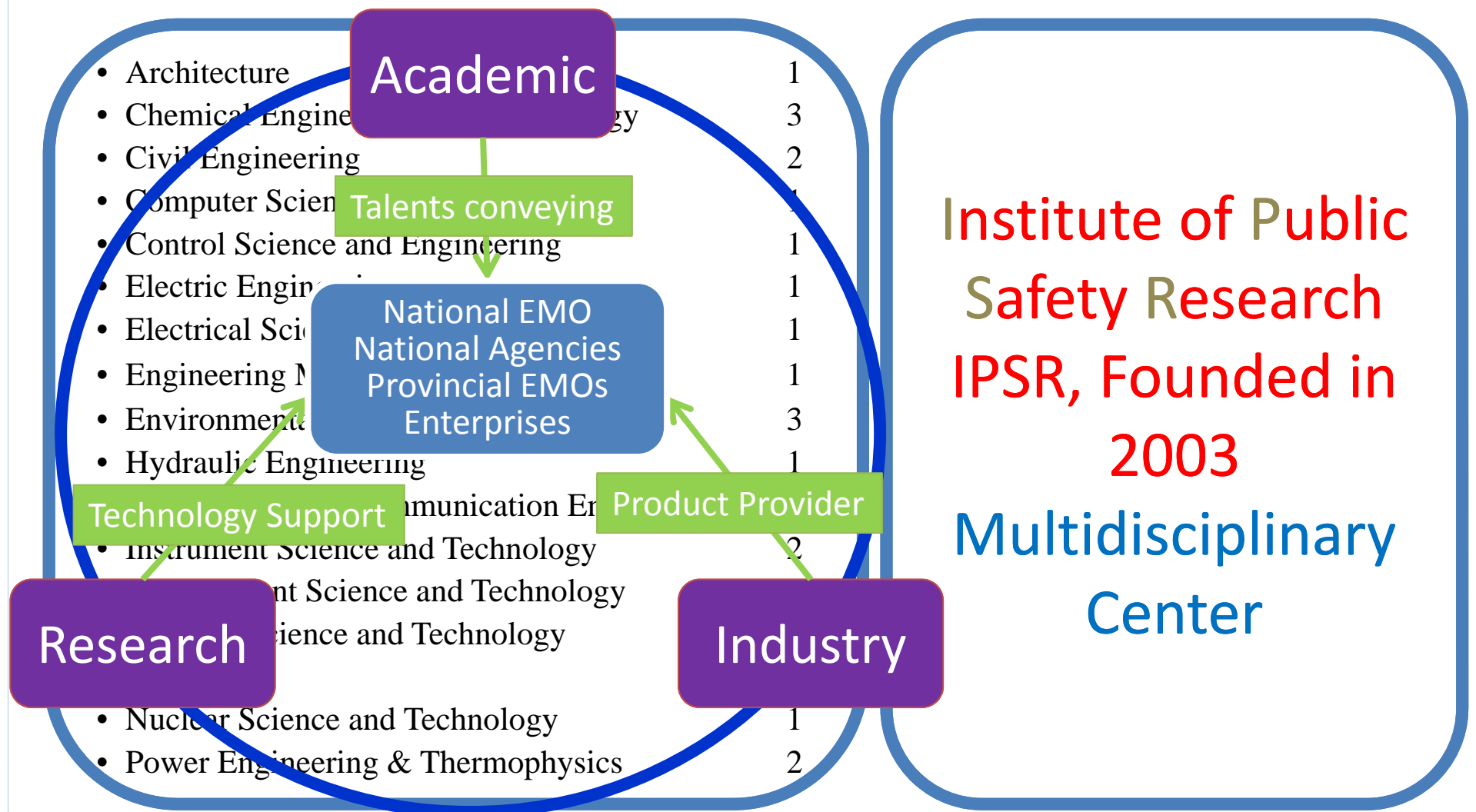
**Institute of Public Safety Research, Tsinghua University
2012.5.23, Kuala Lumpur, Malaysia**

Outline

- **Brief Introduction of IPSR ,Tsinghua University**
- **Current Status of World Emergency Management**
- **Progress on Chinese Emergency Management System**
- **Some Suggestions and Discussions**



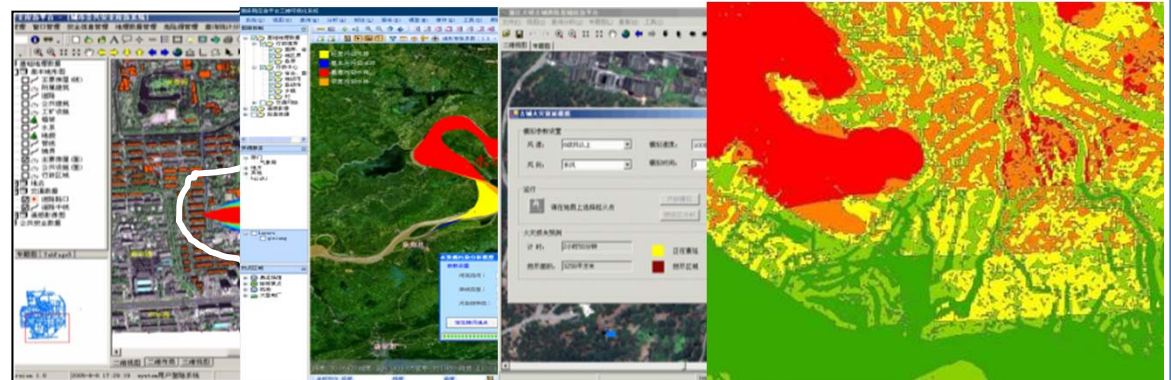
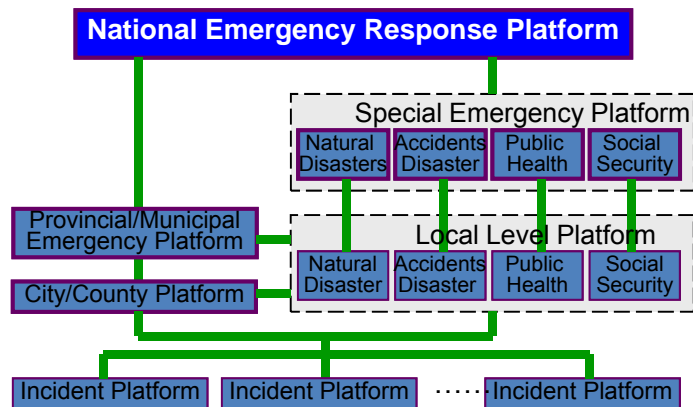
Tsinghua's Ranking (Eng) in 2007



IPSR Plays an Important Role in China

IPSR has conducted several national important projects:

- Framework Design of National Emergency Response Platform
- Software & Database System Development for National ERP
- Integrated Prediction & Early Warning System for National ERP
- Emergency Response System for Sichuan/Yushu Earthquake Command Post



IPSR's Overseas Collaboration

IPSR's overseas collaboration including:

- Academic exchange platform: the Asia-Pacific Public Safety S&T Society
- Tsinghua-United Technologies Corporation(UTC) Research Institute for Integrated Building Energy, Safety and Control Systems
- Tsinghua-Boeing joint research center
- Committee member of ISO/TC223

Tsinghua-Boeing joint research center



The World Emergency Management

USA

Develop from FEMA to DHS, the Federal Government depends on NIMS to Coordinate Emergency Events	Integrated EM system, Gold/Silver/Bronze 3 level response
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HSOC to State EOCs

UK

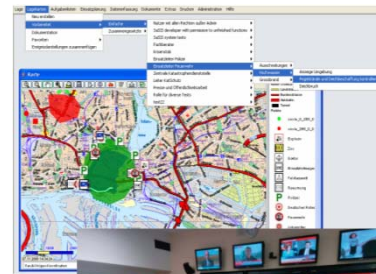
Integrated EM system,
Gold/Silver/Bronze 3
level response



*Using Regional
operation center
to connect the
Cabinet Office
with shire/county*

Germany

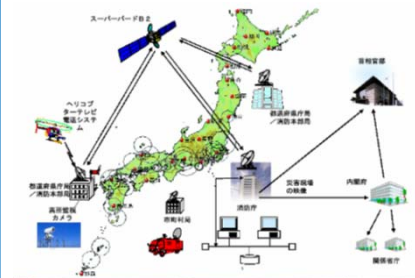
MOI Initiate deNIS II, Connect the Federal Government with States



*Focus on
informational
network*

Japan

DIS covers from capital level to Municipal level



*Focus on natural
disaster monitoring
& early-warning*

Background of Emergency Management



- China is one of few countries that are most severely afflicted by disasters across the world. 328 emergency types!
- 74% of provincial capitals and 62% of municipalities are prone to high-intensity earthquakes, over 70% of large cities and over 50% of the population are vulnerable to meteorological, seismic, geological and oceanic disasters.
- The public safety problems including 4 domains: Natural Disaster, Accidental Events, Public Health Incidents, Social Security Incidents.

Emergency system improvement from disasters response



2003 SARS: **Conceive of EM System and EM Platform**



2003 Kaixian Hazmat Accident: **Utilization of Emergency Technologies**



2005 Songhua River Water Pollution: **The Importance of the Disaster Chain Rule**

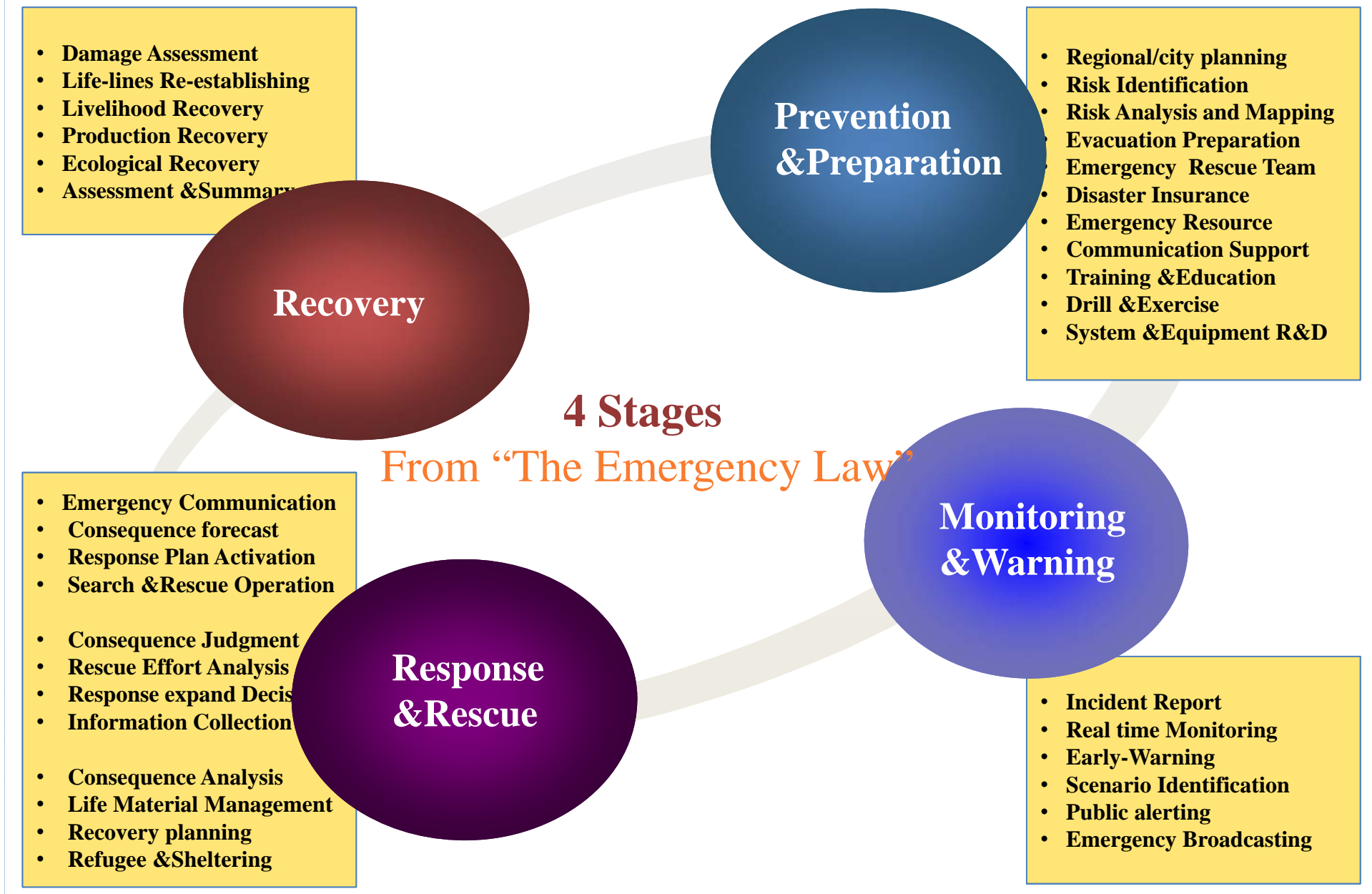


2008 Snow and Freeze Disaster, Sichuan Earthquake: **Emergency Management of Unconventional Catastrophe Hazard**

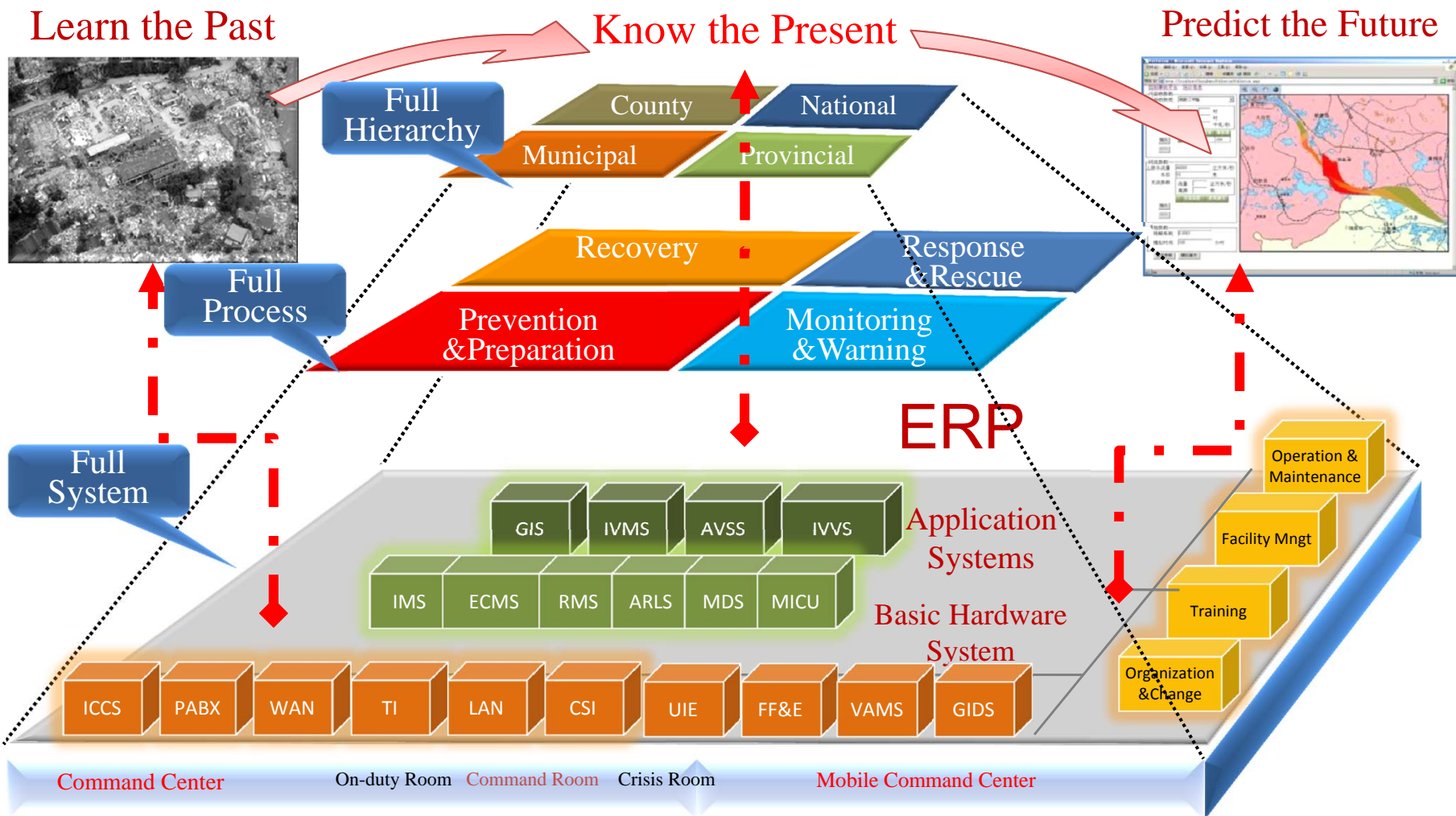


2010 Yushu Earthquake: **On Scene Emergency Equipment and Multi-agency Coordination**

Emergency Management Cycle



Capability of Emergency Response Platform



Emergency Response Plan System

National Master Plan

Specialized Plan(25)

Department Plan(80)

Social Security

Public Health

Accident

Natural disaster

Severe Emergency Happen

Warning Info
(Local Government or Department)

First Response
(Local government)

Info Feedback

Report to State Council

Transfer Orders to
Local Government or
Department

Info Report
(Cabinet Office)

Master plan activate?
(Authorize by State Council)

Emergency Response
(Local Provincial Level Government)

Response Terminate
(Approved by the State Council)

Rehabilitation treatment
(Local Provincial Level Government)

Investigation & Assessment
(the State Council Coordinate with Local Gov.)

Recovery
(Local Provincial Level Government & Related Dept.)

Y

N

Emergency Operation Equipment



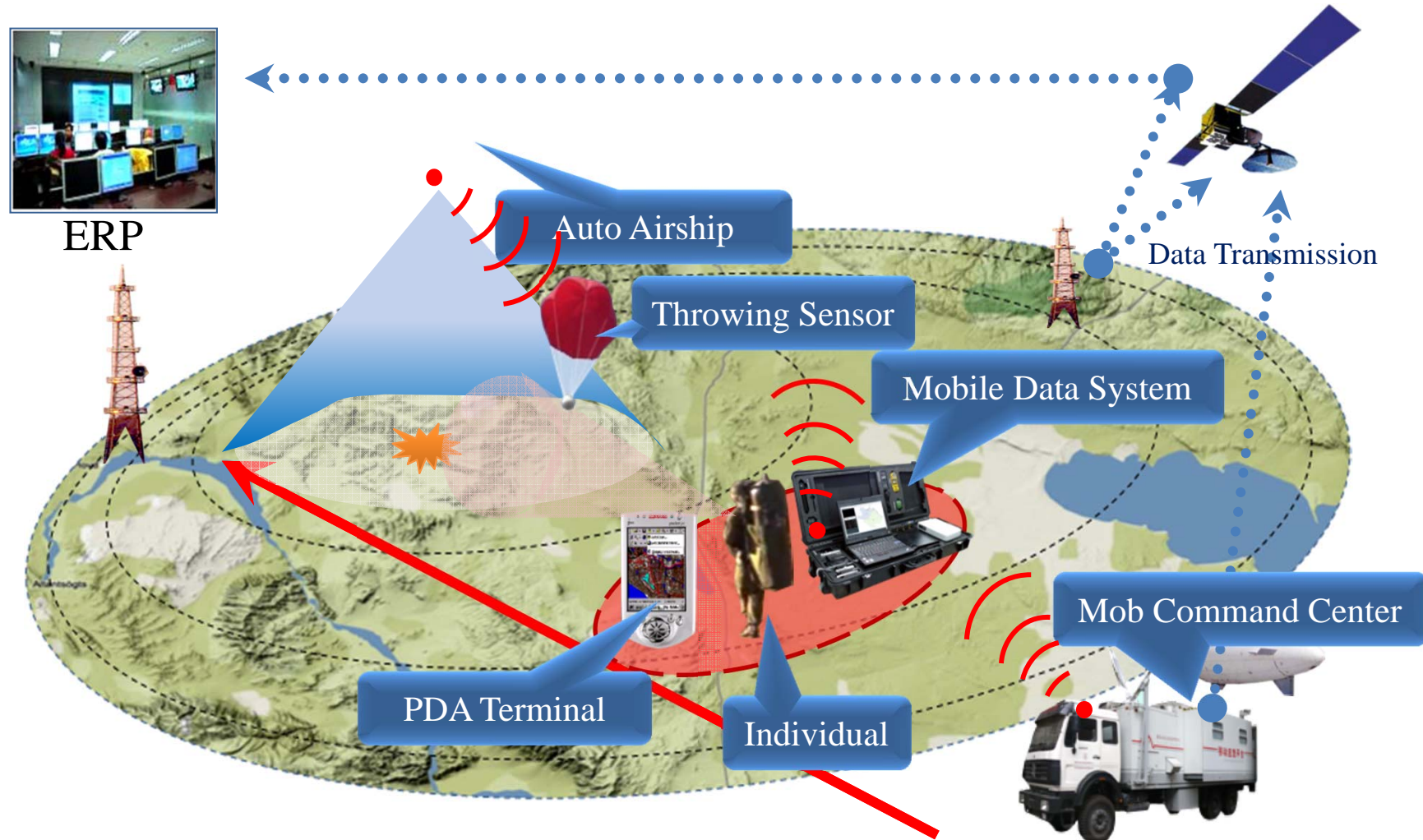
Emergency Operation Team

Firefighting Command & Training Systems for Beijing 2008 Olympic Game

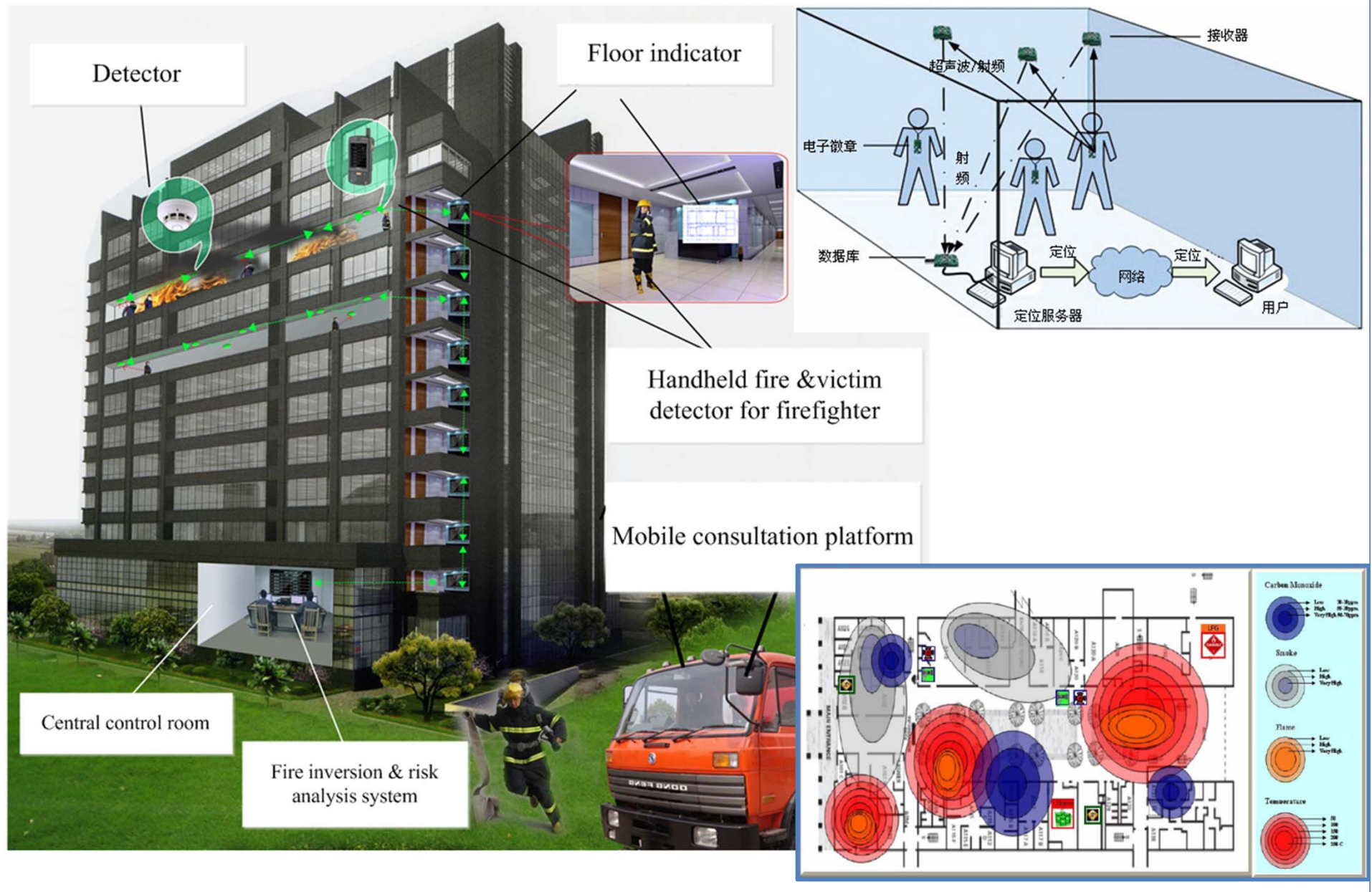


Emergency Operation Equipment

On-Scene Mobile System



Emergency Operation Equipment



Emergency Resource Guarantee Capability



中国自然灾害分布图

Typical Application in Flood Relief



Typical Flood Prevention Process

Flood Prevention Decision Making Process-4 Phase

Information \Rightarrow Prediction \Rightarrow Planning \Rightarrow Decision

Meteorological info

Rainfall info

**Reservoir /Flood storage
&retention area info**

Embankment info

Disaster info

Rainfall forecast

Flood level predict

Embankment risk predict

Flood evolution predict

**Flood plain area &loss
predict**

Flood prevention analysis

Flood control plan

**(water yield dispatch
plan +embankment
protection &repair plan)**

**Flood prevention and
mitigation plan**

Flood warning release

Embankment usage plan

Resource deployment

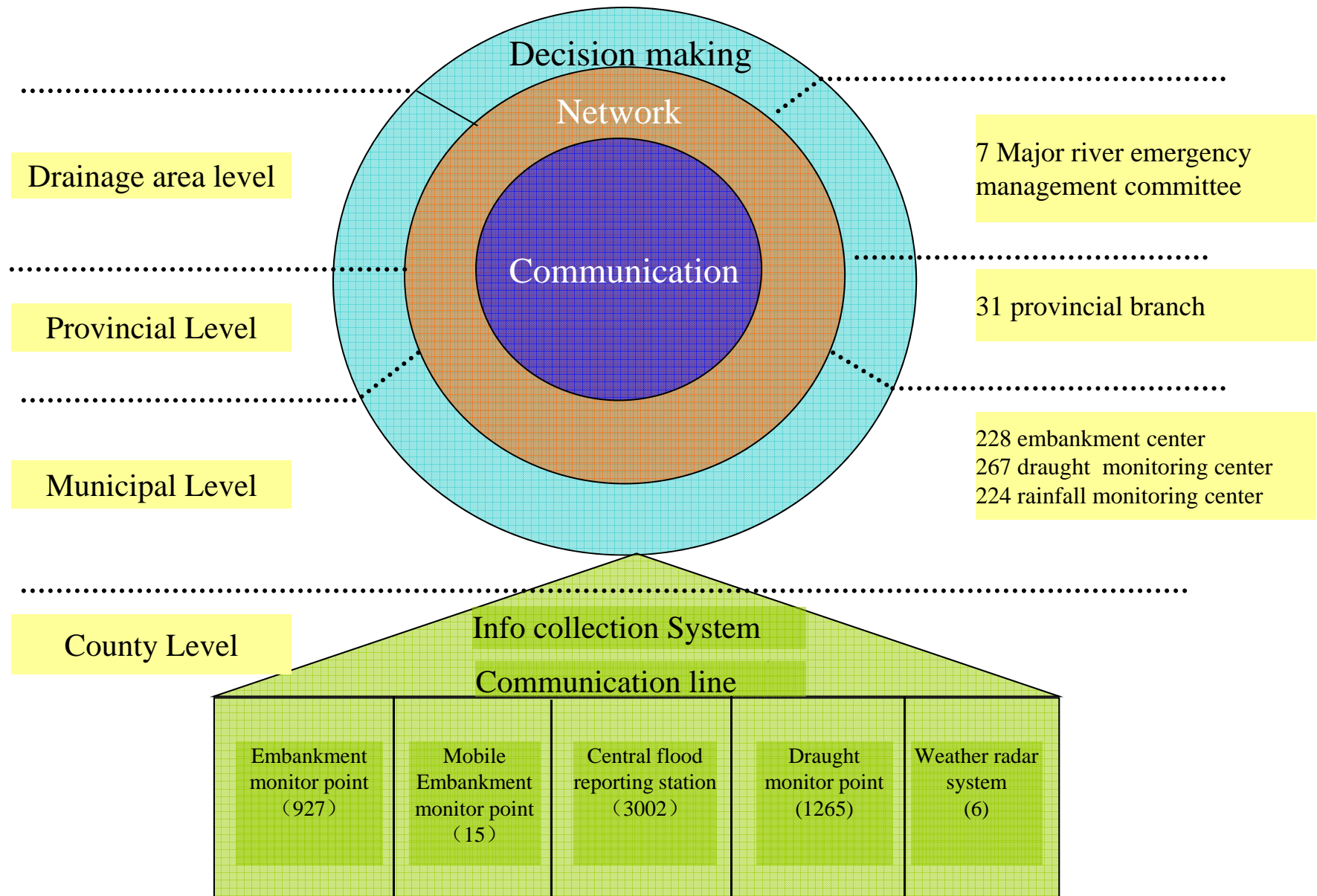
Evacuation plan

Loss evaluation

Other emergency measure



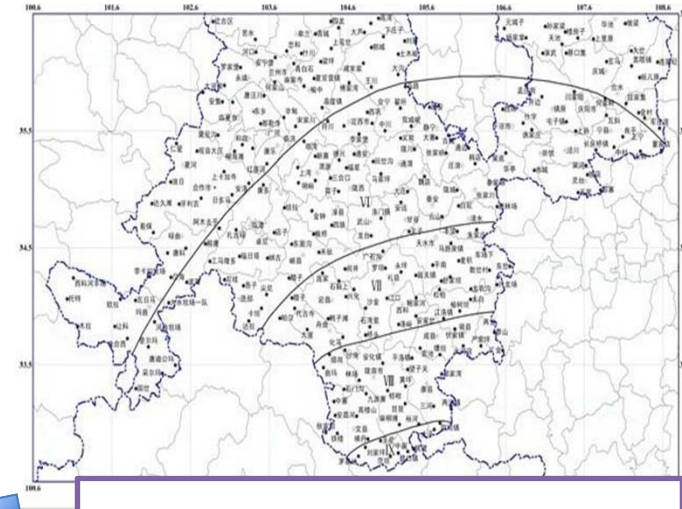
Information



Information exchange between agencies



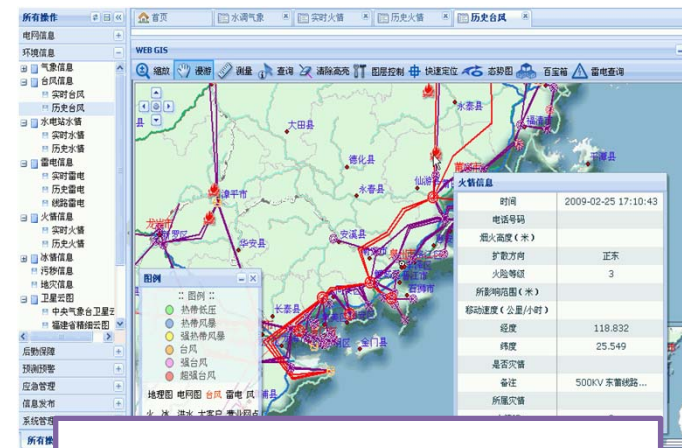
Weather Bureau



Ministry of Land Resource

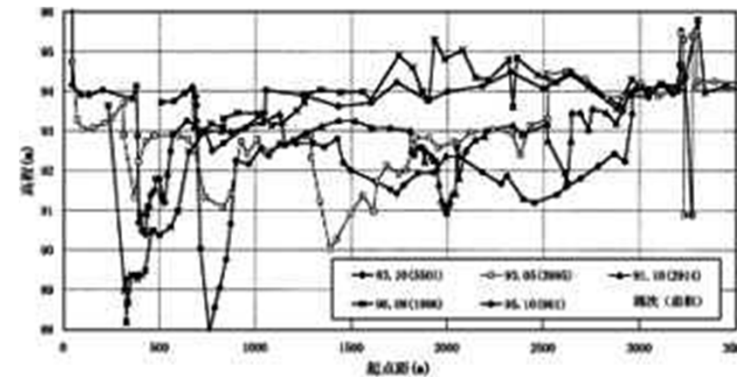
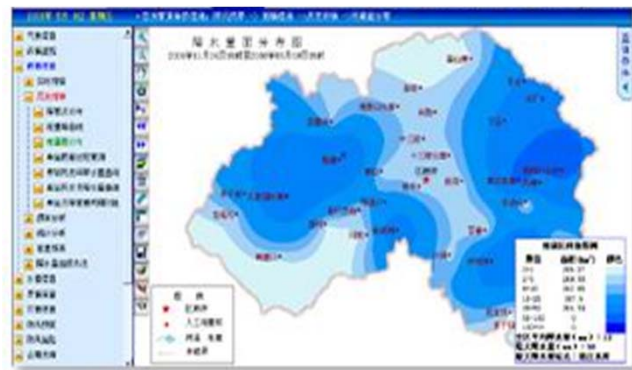
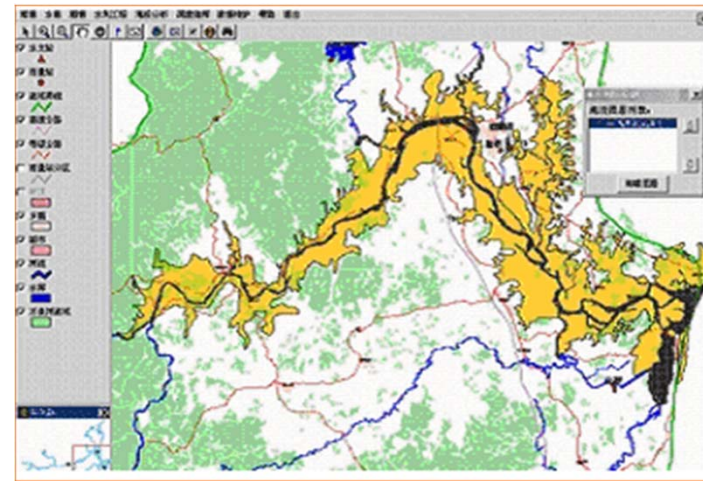
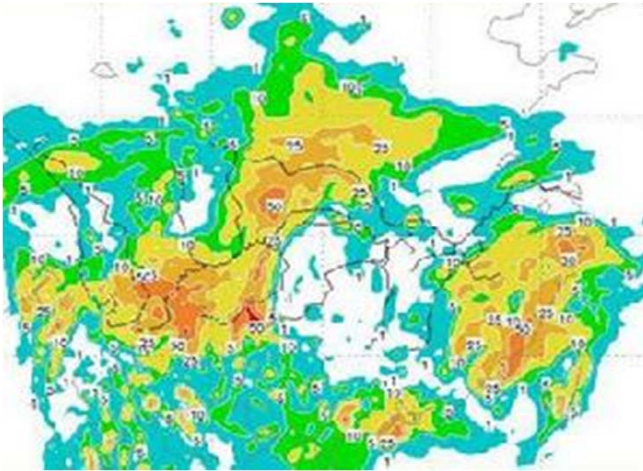


Office of Flood Control & Relief



Power Grid

Prediction

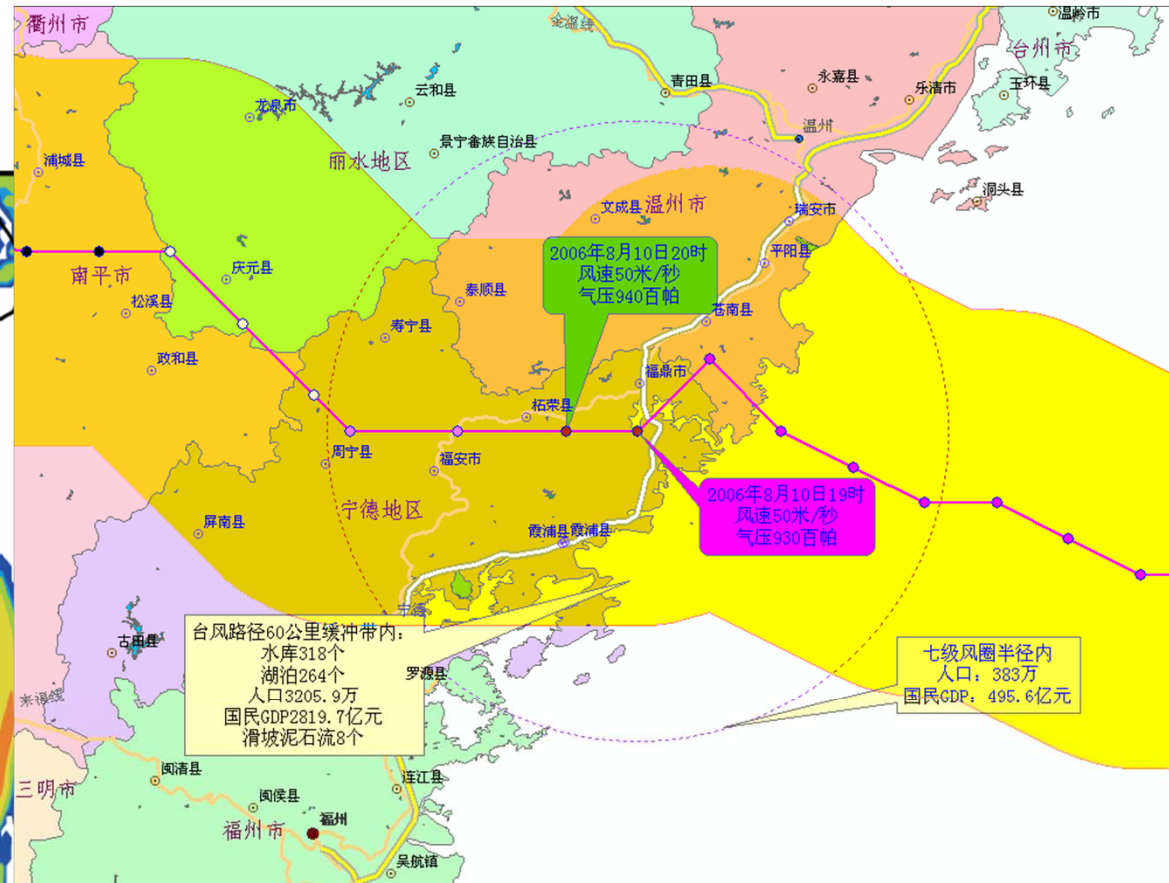
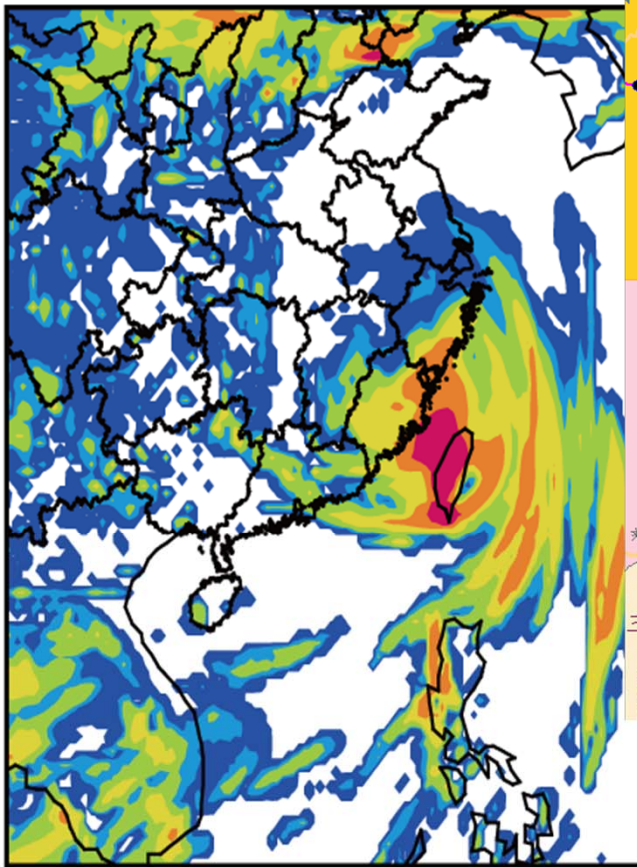


Floodplain Covering Area, Position of Flood Peak, Flood Depth, Flood evolution situation,

Prediction

Flood induced disaster chain analysis(Landslide, Mud, Dambreak,...)

- Tracking the storm
- Predicting rain falls



- Assessment damage (building and economics)
- Warning secondary threats

Prediction

Typical flood induced disaster chain

Flood

traffic interruption

landslides

building collapse

dam burst

waterlogging

epidemic
disease

traffic
interruption

building collapse

pollution

building
collapse

dangerous
chemical release

death

mine incident

social security
problem

explosion

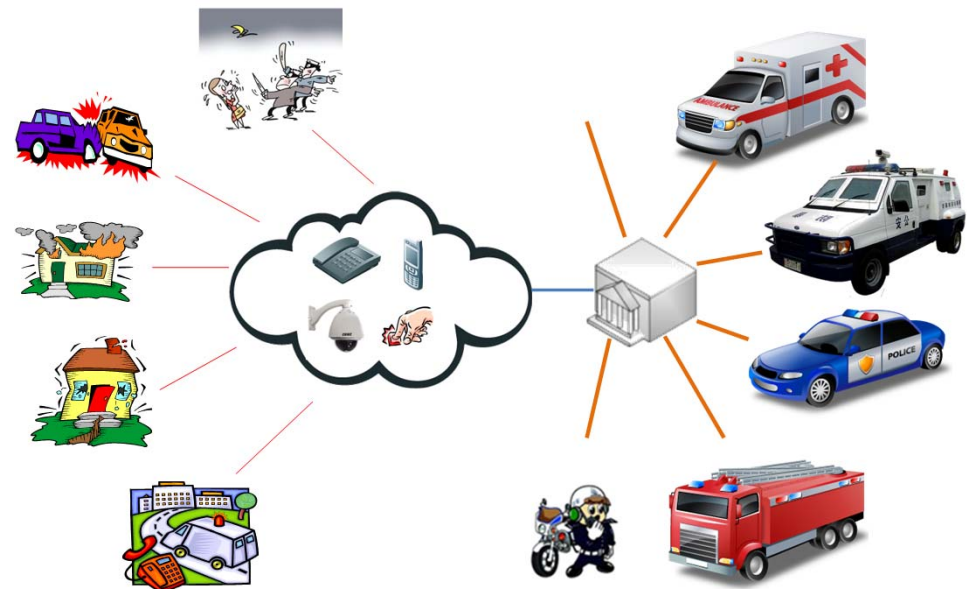
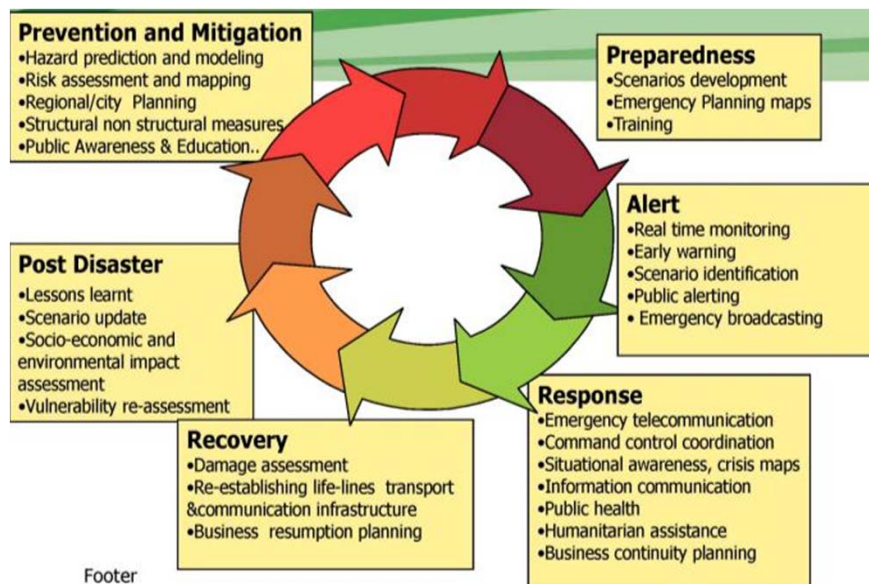
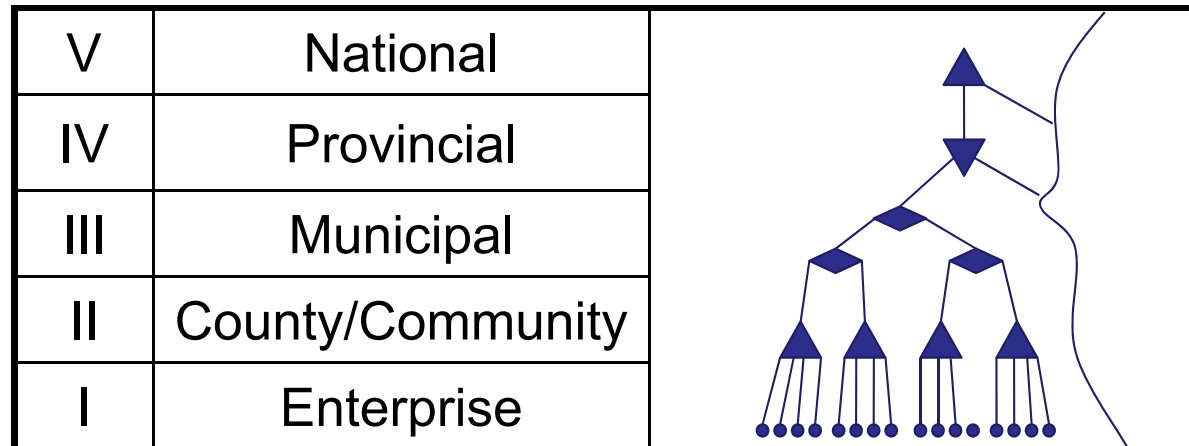
lifelines
destruction

social security
problem

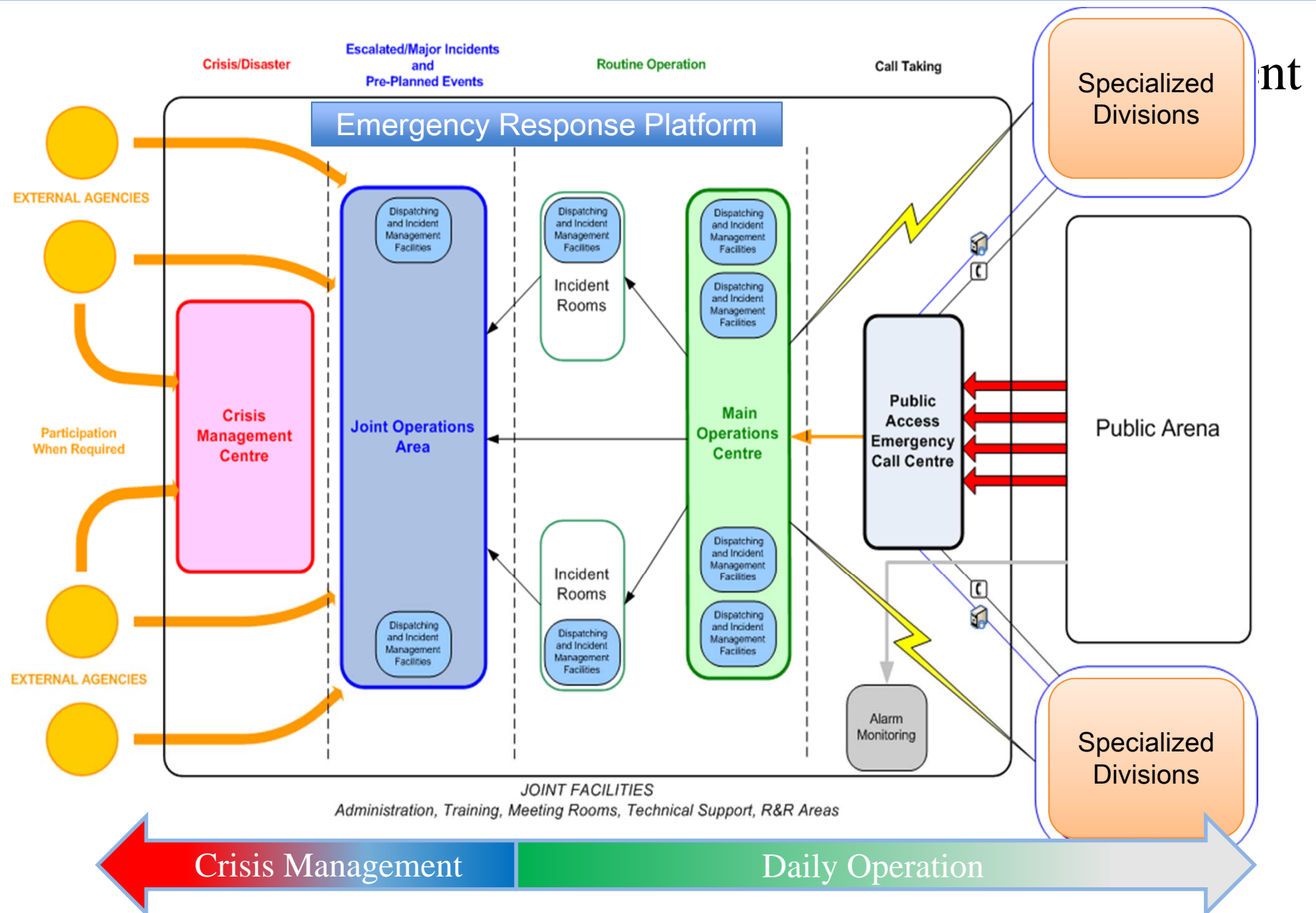
poisoning

Suggestions for Emergency Management

- Suggestion1: Emergency Response Plan Optimization



Suggestions for Emergency Management



Suggestions for Emergency Management



Screen Display



Call-Taking Room



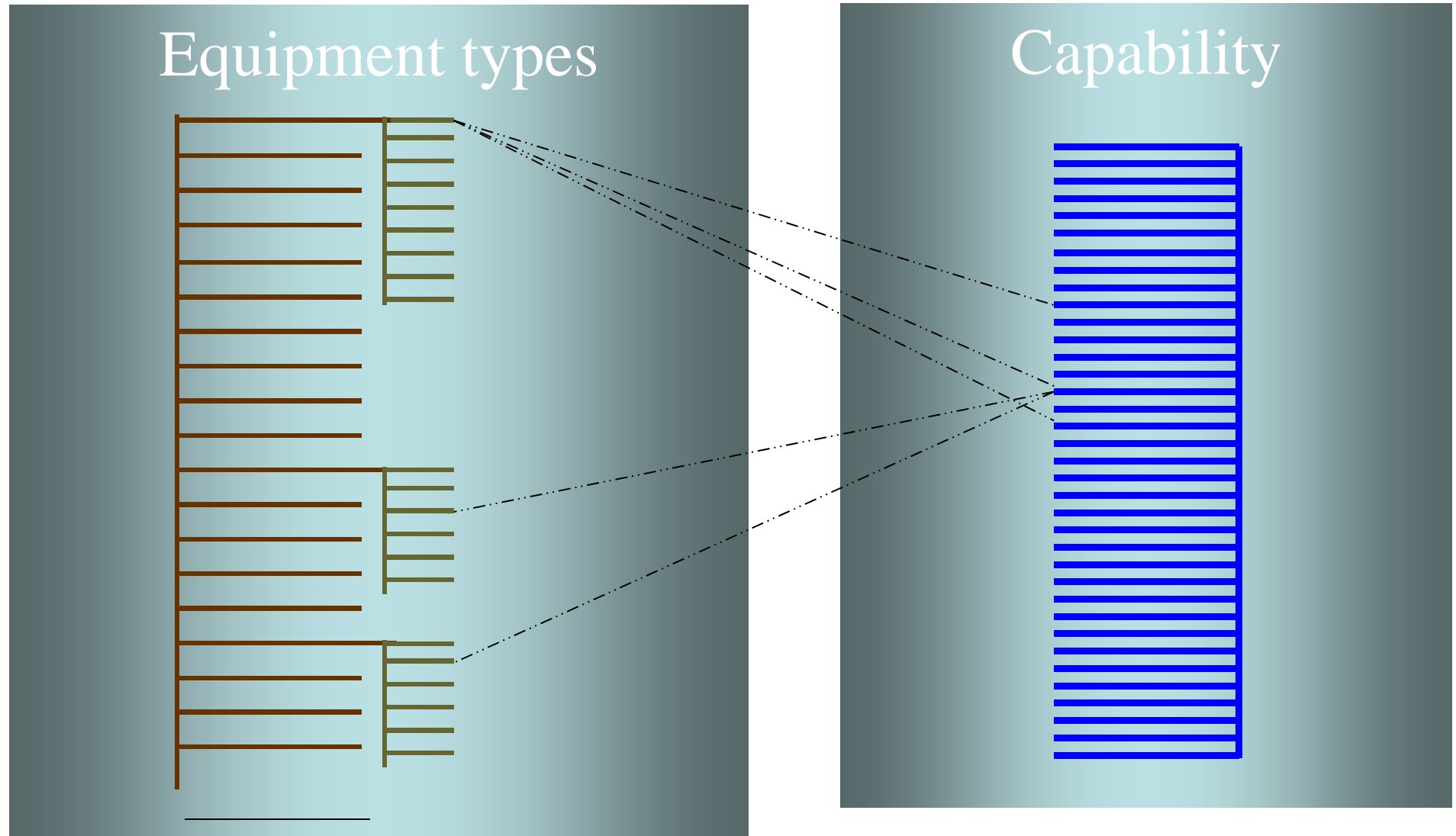
26 Dispatch Room



Crisis Room

Suggestions for Emergency Management

- Suggestion 3: Emergency Equipment



Suggestions for Emergency Management



□ UAV :

Diameter: 0.90m

Flight duration: ≥ 45 min

Speed: 0~ 60Km/h

Flight Height: 0~600m

□ Equip with :

Mini Camera;

Microwave transmitter;

Mini auto-balance instrument;

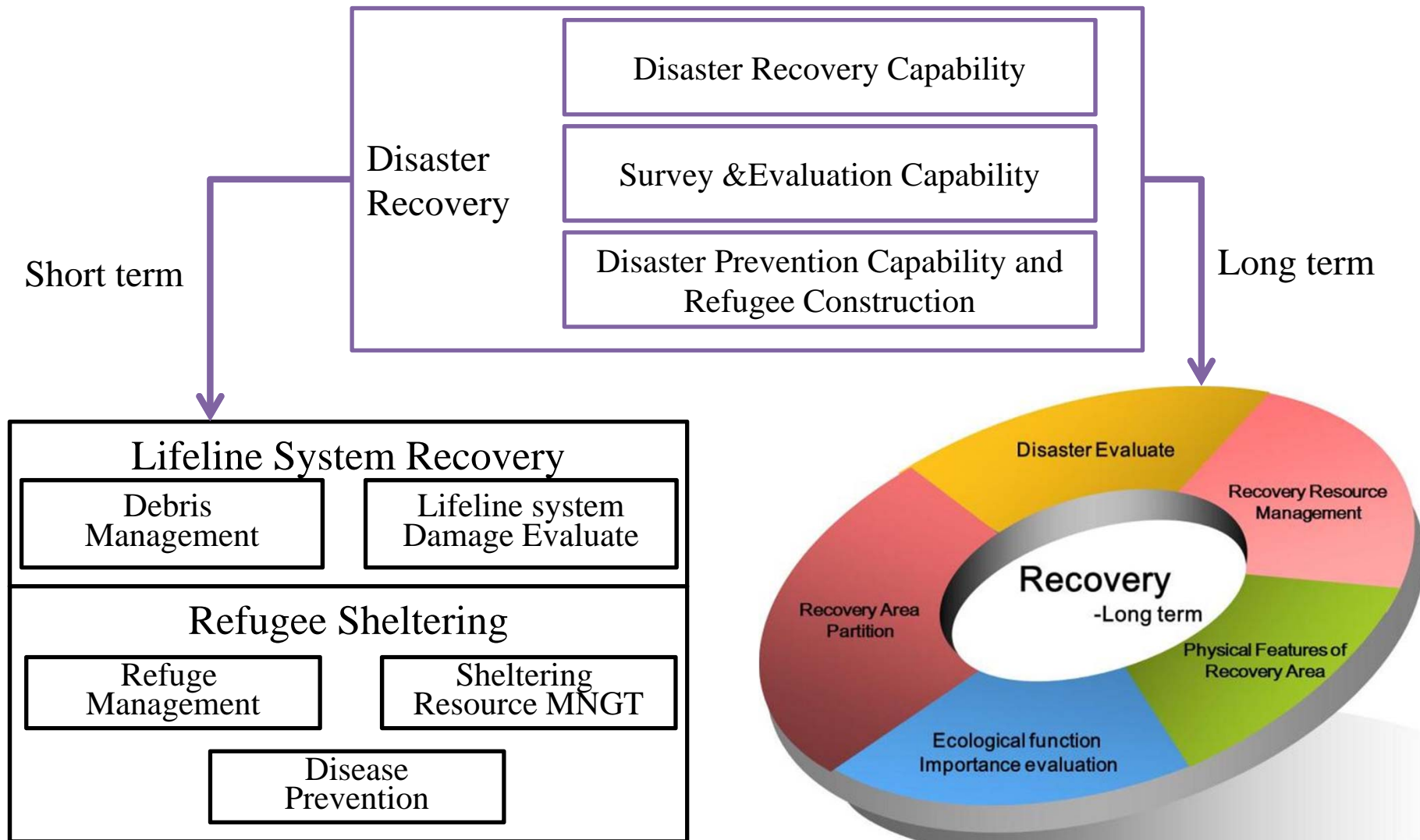
Mini laser ranging sensor;

GPS module, gyroscope, etc.



Suggestions for Emergency Management

- Suggestion 4: Disaster recovery capability



IPSR

Your Reliable Partner!

